Ratio Analysis

Introduction

Ratio Analysis is one of the most widely used techniques in **management accounting** and **financial analysis**. It involves the **systematic use of financial ratios** to interpret the financial statements of a business.
Ratios express relationships between two or more accounting figures, allowing managers to evaluate the organization's **profitability, liquidity, operational efficiency, and solvency**.

In management accounting, ratio analysis is not just about calculating numbers — it is a **diagnostic tool** that helps management **analyze performance, identify weaknesses, and make informed decisions** for planning and control.

Definition

Ratio Analysis is the process of determining and interpreting numerical relationships between figures shown in the financial statements to assess the performance and financial position of an organization.

According to J. Batty:

"The term accounting ratio is used to describe the significant relationship which exists between figures shown in a balance sheet, profit and loss account, and other financial statements."

Objectives of Ratio Analysis

1. **Measure Financial Performance:** To evaluate profitability, efficiency, and solvency of the business.
2. **Facilitate Decision-Making:** To help management make better decisions regarding investments, financing, and operations.
3. **Monitor Efficiency:** To detect whether assets and resources are being used optimally.
4. **Financial Planning and Control:** To provide insights for budgeting, forecasting, and setting performance benchmarks.
5. **Inter-firm Comparison:** To compare performance with competitors or industry averages.
6. **Trend Analysis:** To study changes in financial performance over different periods.

Types of Ratios

Ratios are generally classified into **five major categories**:

A. Profitability Ratios

These ratios measure the firm's ability to earn profits and evaluate overall performance.

Ratio	Formula	Interpretation
Gross Profit Ratio	(Gross Profit / Net Sales) × 100	Measures production and trading efficiency.

Net Profit Ratio	(Net Profit / Net Sales) × 100	Indicates overall profitability after all expenses.
Operating Ratio	(Cost of Goods Sold + Operating Expenses) / Net Sales × 100	Lower ratio indicates higher efficiency.
Return on Capital Employed (ROCE)	(Net Profit before Interest & Tax / Capital Employed) × 100	Measures overall profitability of total capital.
Return on Shareholders' Funds	(Net Profit after Tax / Shareholders' Equity) × 100	Indicates return earned for the owners.

B. Liquidity Ratios

These ratios show the firm's ability to meet short-term obligations and maintain adequate working capital.

Ratio	Formula	Interpretation
Current Ratio	Current Assets / Current Liabilities	Ideal ratio: 2:1. Indicates short-term financial strength.
Quick Ratio (Acid Test)	(Current Assets − Inventory) / Current Liabilities	Ideal ratio: 1:1. Measures immediate liquidity.
Cash Ratio	Cash + Marketable Securities / Current Liabilities	Measures most liquid assets to liabilities.

C. Efficiency or Activity Ratios

These ratios measure how efficiently the business uses its resources like inventory, receivables, and assets.

Ratio	Formula	Interpretation
Inventory Turnover Ratio	Cost of Goods Sold / Average Inventory	Indicates how fast inventory is sold; higher = better.
Debtors Turnover Ratio	Net Credit Sales / Average Debtors	Measures collection efficiency.
Creditors Turnover Ratio	Net Credit Purchases / Average Creditors	Shows payment policy towards suppliers.
Total Assets Turnover Ratio	Net Sales / Total Assets	Measures how efficiently assets are used to generate sales.
Working Capital Turnover	Net Sales / Working Capital	Indicates the efficiency of working capital management.

D. Solvency Ratios

These ratios evaluate the firm's long-term financial stability and its ability to meet long-term obligations.

Ratio	Formula	Interpretation
Debt-Equity Ratio	Long-term Debt / Shareholders' Equity	Indicates the proportion of debt in capital structure. Ideal ratio: 2:1.

Proprietary Ratio	Shareholders' Funds / Total Assets	Shows the degree of owner's funds in total financing.
Interest Coverage Ratio	EBIT / Interest Expense	Measures how comfortably interest obligations can be met.
Debt to Total Assets Ratio	Total Debt / Total Assets	Indicates the share of assets financed through debt.

E. Market Ratios *(mainly for public companies)*

These ratios link financial performance to the market value of shares.

Ratio	Formula	Interpretation
Earnings Per Share (EPS)	Net Profit after Tax / No. of Equity Shares	Indicates earnings available to shareholders.
Price-Earnings (P/E) Ratio	Market Price per Share / Earnings per Share	Reflects investor expectations of growth.
Dividend Payout Ratio	Dividend per Share / Earnings per Share × 100	Shows the portion of profit distributed as dividend.
Dividend Yield	Dividend per Share / Market Price per Share × 100	Indicates the return on investment for shareholders.

Interpretation and Use in Management Accounting

In management accounting, **ratio analysis** is not used in isolation. It supports various managerial functions:

(a) Planning

Managers use ratios to set performance standards and financial targets, e.g., target ROCE or liquidity ratios.

(b) Control

Variance from standard ratios indicates problems (e.g., declining liquidity → cash flow issue).

(c) Decision Making

Ratios assist in decisions such as:

- Whether to increase production.
- How to finance new projects (debt vs. equity).
- Whether to grant credit to customers.

(d) Communication

Ratios simplify complex financial statements into understandable indicators for internal and external stakeholders.

Advantages of Ratio Analysis

1. **Simplifies Complex Data** – Converts financial statements into simple, comparable indicators.
2. **Facilitates Comparison** – Enables comparison across time periods and with competitors.
3. **Assists in Forecasting** – Helps predict future performance trends.
4. **Improves Efficiency** – Highlights weak areas in operations or financial management.
5. **Decision-Making Tool** – Aids in managerial decisions regarding investments, credit, and cost control.
6. **Supports Control and Monitoring** – Serves as a tool for financial control and corrective action.

Limitations of Ratio Analysis

1. **Based on Historical Data:** Past data may not reflect current or future conditions.
2. **Different Accounting Policies:** Variations in accounting methods (like depreciation or inventory valuation) affect comparability.
3. **Lack of Standard Benchmarks:** Ideal ratios differ across industries and firms.
4. **Quantitative, Not Qualitative:** Ratios ignore non-financial factors like employee morale or market reputation.
5. **Window Dressing:** Financial statements may be manipulated to show favorable ratios.
6. **Static Nature:** Ratios provide only a snapshot at one point in time.